Raytheon

23010 Ladbrook Drive

Sterling, VA 20166

GPS Distribution system power calculation.

FPC Lab/Classrooms

GPS Signal Analysis FPC Classroom 1						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	100	feet				
Total Coax Loss	-8.8	dB	-78.1	6E-12	5.623	
GPS Transmitting Antenna Gain	3	dB	-75.1	1E-11	11.220	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-69.32	4E-11	42.433588	
Signal level at unit under test ERIP to ERP			-71.46	3E-11	25.924462	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-139	1E-17	1.258E-05	
Signal level at 100 ft ERP			**-141.1**	8E-18	7.686E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Classroom 2						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	100	feet				
Total Coax Loss	-8.8	dB	-78.1	6E-12	5.623	
GPS Transmitting Antenna Gain	3	dB	-75.1	1E-11	11.220	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-69.32	4E-11	42.433588	
Signal level at unit under test ERIP to ERP			-71.46	3E-11	25.924462	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-139	1E-17	1.258E-05	
Signal level at 100 ft ERP			**-141.1**	8E-18	7.686E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Classroom 3						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	120	feet				
Total Coax Loss	-10.56	dB	-79.86	1E-11	10.328	
GPS Transmitting Antenna Gain	3	dB	-76.86	2E-11	20.606	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-71.08	8E-11	77.930911	
Signal level at unit under test ERIP to ERP			-73.22	5E-11	47.611269	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-140.8	8E-18	8.388E-06	
Signal level at 100 ft ERP			**-142.9**	5E-18	5.125E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Rooms 1 and 2						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	110	feet				
Total Coax Loss	-9.68	dB	-78.98	1E-11	12.647	
GPS Transmitting Antenna Gain	3	dB	-75.98	3E-11	25.235	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-70.2	1E-10	95.435457	
Signal level at unit under test ERIP to ERP			-72.34	6E-11	58.305531	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-139.9	1E-17	1.027E-05	
Signal level at 100 ft ERP			**-142**	6E-18	6.276E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Rooms 3 and 4						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	110	feet				
Total Coax Loss	-9.68	dB	-78.98	1E-11	12.647	
GPS Transmitting Antenna Gain	3	dB	-75.98	3E-11	25.235	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-70.2	1E-10	95.435457	
Signal level at unit under test ERIP to ERP			-72.34	6E-11	58.305531	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-139.9	1E-17	1.027E-05	
Signal level at 100 ft ERP			**-142**	6E-18	6.276E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Classroom 1						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	100	feet				
Total Coax Loss	-9.9	dB	-79.2	1E-11	12.023	
GPS Transmitting Antenna Gain	3	dB	-76.2	2E-11	23.988	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-72.59	6E-11	55.084677	
Signal level at unit under test ERIP to ERP			-74.73	3E-11	33.653544	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-142.3	6E-18	5.929E-06	
Signal level at 100 ft ERP			**-144.4**	4E-18	3.622E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Classroom 2						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	100	feet				
Total Coax Loss	-9.9	dB	-79.2	1E-11	12.023	
GPS Transmitting Antenna Gain	3	dB	-76.2	2E-11	23.988	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-72.59	6E-11	55.084677	
Signal level at unit under test ERIP to ERP			-74.73	3E-11	33.653544	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-142.3	6E-18	5.929E-06	
Signal level at 100 ft ERP			**-144.4**	4E-18	3.622E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Classroom 3						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	120	feet				
Total Coax Loss	-11.88	dB	-81.18	4E-12	3.846	
GPS Transmitting Antenna Gain	3	dB	-78.18	8E-12	7.674	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-74.57	2E-11	17.62101	
Signal level at unit under test ERIP to ERP			-76.71	1E-11	10.765416	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-144.2	4E-18	3.758E-06	
Signal level at 100 ft ERP			**-146.4**	2E-18	2.296E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Rooms 1 and 2						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	110	feet				
Total Coax Loss	-10.89	dB	-80.19	4E-12	3.846	
GPS Transmitting Antenna Gain	3	dB	-77.19	8E-12	7.674	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-73.58	2E-11	17.62101	
Signal level at unit under test ERIP to ERP			-75.72	1E-11	10.765416	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-143.3	5E-18	4.721E-06	
Signal level at 100 ft ERP			**-145.4**	3E-18	2.884E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis FPC Rooms 3 and 4						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	110	feet				
Total Coax Loss	-10.89	dB	-80.19	4E-12	3.846	
GPS Transmitting Antenna Gain	3	dB	-77.19	8E-12	7.674	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-73.58	2E-11	17.62101	
Signal level at unit under test ERIP to ERP			-75.72	1E-11	10.765416	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-143.3	5E-18	4.721E-06	
Signal level at 100 ft ERP			**-145.4**	3E-18	2.884E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

Area C Lab

GPS Signal Analysis Area C Port 1						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	150	feet				
Total Coax Loss	-13.2	dB	-82.5	6E-12	5.623	
GPS Transmitting Antenna Gain	3	dB	-79.5	1E-11	11.220	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-73.72	4E-11	42.433588	
Signal level at unit under test ERIP to ERP			-75.86	3E-11	25.924462	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-143.4	5E-18	4.568E-06	
Signal level at 100 ft ERP			**-145.5**	3E-18	2.79E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area C Port 2						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	150	feet				
Total Coax Loss	-13.2	dB	-82.5	6E-12	5.623	
GPS Transmitting Antenna Gain	3	dB	-79.5	1E-11	11.220	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-73.72	4E-11	42.433588	
Signal level at unit under test ERIP to ERP			-75.86	3E-11	25.924462	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-143.4	5E-18	4.568E-06	
Signal level at 100 ft ERP			**-145.5**	3E-18	2.79E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area C Port 1						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	150	feet				
Total Coax Loss	-14.85	dB	-84.15	4E-12	3.846	
GPS Transmitting Antenna Gain	3	dB	-81.15	8E-12	7.674	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-77.54	2E-11	17.62101	
Signal level at unit under test ERIP to ERP			-79.68	1E-11	10.765416	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-147.2	2E-18	1.897E-06	
Signal level at 100 ft ERP			**-149.4**	1E-18	1.159E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area C Port 2						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	-10	dB	-69.3	1E-10	117.49	10 dB attenuator at A11 Amp output
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	150	feet				
Total Coax Loss	-14.85	dB	-84.15	4E-12	3.846	
GPS Transmitting Antenna Gain	3	dB	-81.15	8E-12	7.674	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-77.54	2E-11	17.62101	
Signal level at unit under test ERIP to ERP			-79.68	1E-11	10.765416	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-147.2	2E-18	1.897E-06	
Signal level at 100 ft ERP			**-149.4**	1E-18	1.159E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

Area X Lab

GPS Signal Analysis Area X Port 1						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	0	dB	-59.3	1E-09	1174.90	No attenuator needed with longer cable
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	230	feet				
Total Coax Loss	-20.24	dB	-79.54	1E-11	11.117	
GPS Transmitting Antenna Gain	3	dB	-76.54	2E-11	22.182	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-70.76	8E-11	83.889915	
Signal level at unit under test ERIP to ERP			-72.9	5E-11	51.251875	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-140.4	9E-18	9.03E-06	
Signal level at 100 ft ERP			**-142.6**	6E-18	5.517E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area X Port 2						
Frequency	1227.6	MHz	Signal Level			
Wavelength	0.2444	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	0	dB	-59.3	1E-09	1174.90	No attenuator needed with longer cable
LMR-240-LLPL Coax loss per foot	-0.088	dB				Based upon loss at 1200MHz
Coax Length	230	feet				
Total Coax Loss	-20.24	dB	-79.54	1E-11	11.117	
GPS Transmitting Antenna Gain	3	dB	-76.54	2E-11	22.182	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	5.7771	dB	-70.76	8E-11	83.889915	
Signal level at unit under test ERIP to ERP			-72.9	5E-11	51.251875	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-63.9	dB	-140.4	9E-18	9.03E-06	
Signal level at 100 ft ERP			**-142.6**	6E-18	5.517E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area X Port 1						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	0	dB	-59.3	1E-09	1174.90	No attenuator needed with longer cable
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	230	feet				
Total Coax Loss	-22.77	dB	-82.07	6E-12	6.209	
GPS Transmitting Antenna Gain	3	dB	-79.07	1E-11	12.388	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-75.46	3E-11	28.446629	
Signal level at unit under test ERIP to ERP			-77.6	2E-11	17.379241	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-145.1	3E-18	3.062E-06	
Signal level at 100 ft ERP			**-147.3**	2E-18	1.871E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						

GPS Signal Analysis Area X Port 2						
Frequency	1575.4	MHz	Signal Level			
Wavelength	0.1904	meters	dBm	Watts	picoWatts	
GPS Input Signal Level	-130	dBm	-130	1E-16	0.0001	
GPS Receive Antenna amplifier gain	37.7	dB	-92.3	6E-13	0.59	GPS Source L1 Active Antenna
GPS RF Amplifier gain	33	dB	-59.3	1E-09	1174.90	GPS Source A11 Amplifier
GPS RF Attenuator	0	dB	-59.3	1E-09	1174.90	No attenuator needed with longer cable
LMR-240-LLPL Coax loss per foot	-0.099	dB				Based upon loss at 1500MHz
Coax Length	230	feet				
Total Coax Loss	-22.77	dB	-82.07	6E-12	6.209	
GPS Transmitting Antenna Gain	3	dB	-79.07	1E-11	12.388	GPS Source L1P- Passive GPS Antenna
Distance from transmit antenna	0.01	meters				
Distance from transmit antenna	0.0328	feet				
Pathloss to unit under test	3.6103	dB	-75.46	3E-11	28.446629	
Signal level at unit under test ERIP to ERP			-77.6	2E-11	17.379241	
Distance from transmit antenna	30.48	meters				
Distance from transmit antenna	100	feet				
Pathloss to 100 ft	-66.07	dB	-145.1	3E-18	3.062E-06	
Signal level at 100 ft ERP			**-147.3**	2E-18	1.871E-06	<----Potential system exceeding limits
Compliant if signal level at 100 ft ERP is less than -140 dBm						